REPORT

OF

S. P. RUGGLES

TO THE COMMITTEE OF THE

AMERICAN ASSOCIATION

OF

INSTRUCTORS OF THE BLIND.

AUGUST, 1872.

BOSTON:
ALFRED MUDGE & SON, PRINTERS, 34 SCHOOL STREET.
1872.

REPORT

OF

S. P. RUGGLES.

OFFICE, 1045 WASHINGTON STREET,
BOSTON, August, 1872.

To the "Committee of the Association of American Instructors of the Blind":

GENTLEMEN: —

Herewith I submit, for your consideration, a report of what I have accomplished in the brief time which has elapsed since your last meeting.

Permit me first to say, that all new enterprises are subject to numerous delays and difficulties, especially where new processes and new mechanisms are to be employed. It may be thought, by some persons, that I have not accomplished as much as I ought, since the receipt of your instructions, — dated on the 19th of March, 1872, — but all practical men well know that it consumes a large amount of time to get up new apparatus and machinery of an entirely novel character, particularly for the production of new results, as much of the contriving and construction has to be frequently altered after trial, or after several trials. It should be remembered, also, that the process of making new type involves a practical knowledge of five distinct and separate trades, each requiring a high degree of mechanical skill, before the type comes to the hands of the printer, — and in making the peculiar changeable type, indispensable for producing maps in relief, I could not avail myself of the slightest assistance from other hands than my own; the type for the maps, and the whole process connected with their manufacture, being entirely novel,

there are no skilled artisans anywhere to be found, that are capable of doing the work required, or of rendering any aid in its prosecution.

I have made many experiments in two or three new modes of stereotyping, each of which offers many attractions; and, although I have not yet decided which is absolutely the best to be adopted, I have succeeded so far as to be able to produce good stereotype plates for less than one quarter part of the price which has heretofore been paid for such work. The last plates made for the Perkins Institution for the Blind, at the stereotype foundery, cost five dollars per page, and the founders inform me that they will charge that price in the future.

With my new and cheap mode of stereotyping, I think you will deem it economical to stereotype everything intended to be printed, and to print from the plates whatever number of copies may be wanted for immediate distribution to the blind, or to the Institutions. Then to lay the plates aside until another edition is wanted. By pursuing this course, all the expense of composition, proof-reading, etc., for future editions, will be saved. The cost of the metal, in the plates, will be small, and the metal will always be worth the price paid for it. The plates can be melted up, and used for other purposes whenever desired. But on this subject, as upon all others, you will form your own judgment.

On the 18th of December, 1871, I received the following notice of the acceptance of my proposition: —

"PHILADELPHIA, December 12, 1871.

"*Dear Sir* — The undersigned, members of the Committee appointed by the Convention of Instructors of the BLIND, at Indianapolis, in August, 1871, met in Philadelphia on the 21st of November, 1871, to consider the following proposition made by Mr. S. P. RUGGLES, of Boston: —

"'If all the Institutions for the Blind in the United States will choose a Publishing Committee, — said Committee representing all said Institutions, — whose duty it shall be to decide what books, maps, etc. shall be printed, — the number of copies in each edition, — and how to be distributed among the different blind people and Institutions, — I will get up an improved printing establishment, supplied with all the necessary printing presses, all the type, of various kinds, for books, maps, and all other work, together with all the conveniences for electrotyping and stereotyping, — and also, all the appliances necessary for the manufacture of the school apparatus, and all things needed for the successful operation of the entire mechanical departments of such an establishment, — and all at my own

expense, without any charge or cost to said Committee, or Institutions; — and I will also superintend the same without pay or cost to any one, — my sole object being to give the blind the benefit of all the improvements which I have thought out and perfected within the past ten years, and which I believe will be found to be nearly, or quite as much in advance of the present modes of instruction, printing, etc., as the improvements which I made in 1835 were in advance of every thing prior to that time.'

"The Committee, after due consideration, passed the following Resolution, —

"*Resolved*, That we do hereby cordially accept, in behalf of all the Institutions for the Instruction of the Blind in the United States, the above very generous offer of Mr. Ruggles.

"The Committee repaired to Boston and presented the Resolution in person, to Mr. Ruggles, with their thanks for his contemplated munificent gift to the Blind of our Country.

"WILLIAM CHAPIN, OF PENNSYLVANIA,
"WILLIAM H. CHURCHMAN, OF INDIANA,
"A. D. LORD, OF NEW YORK STATE,
"F. D. MORRISON, OF MARYLAND,
"G. L. SMEAD, OF OHIO,
"*Committee.*

"H. L. HALL, GENERAL AGENT, etc."

On the first of January, 1872, I sent the following circular to each of the members of the above committee, and to the Superintendents of the several institutions: —

"OFFICE, 1045 WASHINGTON ST.
BOSTON, Jan. 1, 1872.

"*Dear Sir:* — It has been suggested by some friends interested in our enterprise for the blind, that I should state to the Committee, for their consideration, what I propose to do, or the changes or improvements that I expect to make in the works for the blind.

"I think it very important that the Committee consider what kind of letter or alphabet should be used, or is best for all the blind, and then use that one exclusively. All the seeing people have used only one kind of type for regular reading for centuries. Why should the blind have two or three or more kinds of alphabet?

"I have thought that it might be best to adopt a universal size for the page, say ten by twelve inches, or whatever might be deemed best. There would be great advantage gained in the production of books, besides the convenience to the blind of having their books all of the same size.

"We all know that it is necessary to make the type for ink-printing perfectly level on the top, as they have to be inked and paper pressed upon them to print for the seeing. Not so with the blind; they read by feeling, and they do not know the shape of the letter by the touch. For instance, the letter h, in the Boston Print, feels like one dot at the top and two at the bottom. It is not necessary to make the type level on the top, but would be much better to make it of different elevations, so that they could feel a greater difference in the letters, making the points that they actually feel more prominent, leaving the other parts, that are recognized by the eye, a little depressed. The whole perhaps can be lessened so that the book would not be so thick, and yet read more readily by the blind than what they have now. For instance, if we were looking

across the street, and saw a line of soldiers, one very tall and another short, one thin and another very wide or thick, one with a red feather and one with a white feather, and still another with a blue or green feather, we could easily designate any particular one, as there would be so great a difference in them. So in the alphabet for the blind, if there is a great and distinct difference to the touch, they can easily understand them. I don't know as it would be necessary even, to have all the letters line at the top or bottom; if some letters standing up or down would be more readily understood, it might be better. I don't suppose that we are trying to make them see with their fingers, all the conveniences made for the eye.

"I have thought that the paper might be very much improved by making it a little colored, or tinted with blue, green, yellow, or some other color, as it would not so readily show the soiling by reading by the fingers as white paper. I think it would be more appropriate; besides I think it could be made of Manilla, with perhaps wood, which would cost probably less than half the price of white paper, and be a great deal stronger, and better adapted to the purpose of printing for the blind.

"If the Committee should adopt one sized page, and there should be a great deal of printing wanted, there could be a press made to print four pages at once, printing in the folds in the sheet, also the holes that would be necessary in the binding, so that every sheet would fold just the same, and the pages would exactly register, etc., which would greatly facilitate the binding.

"I have thought that if I can succeed in stereotyping or plate making in some new and cheap way (which I think I can), that it might be best to make plates for everything we do, and then print just the size edition that was wanted for all the Institutions, and all blind people, and then lay the plates away until another edition was wanted.

"The map type, I think, I can greatly improve by recutting the punches, matrices, etc., from what I did at first, making the face of less height, etc., and of different elevations, etc., the same as the other type.

"I have thought that the slates might be made of solid wood, with the squares nicely cut through perfect and smooth. It is true that it would be necessary to get up a machine to do this, costing perhaps five hundred dollars, but as that would be at my individual expense, it would not matter to the Committee, so long as the slates could then be produced at very little cost and be very perfect. Perhaps the type to use in them may be modified somewhat, and yet understood as well, so that they can be made in zinc, which would not soil or black the fingers.

"The writing-boards should be decided on, that is, what plan is best for use, and then I will state how to make them so cheap that every blind person can have one. Mr. Smead of Ohio makes a writing-board different from the one I made for this Institution, which I think good, but I suppose the blind themselves would have to decide which is best. He mentions also that he thinks two kinds desirable; I can't agree with him there. I think when the best plan of writing-board is adopted, that we should want no other kind.

"Would like your opinion at your earliest convenience, and to know if you think that any or all of the above suggestions had better be attempted to be carried out.

"Yours, most respectfully,

"S. P. RUGGLES."

On the 19th day of March, 1872, I received the following instructions, dated March 14th, 1872.

"PHILADELPHIA, March 14th, 1872.

"To S. P. RUGGLES, Esq., *Boston, Mass.*

"*Dear Sir:* — The undersigned, committee, having carefully read your circular under date of Jan. 1st, 1872, beg to say that we fully approve all the suggestions therein contained, excepting the one in reference to throwing the letters out of line in printing. This, we think, can and should be avoided.

"We would therefore recommend that you proceed at once to experiment with your proposed improvements in book and map types, taking the present Boston letter as your basis for the one, and your original map type as your basis for the other; also, with your proposed new kind of paper for books and maps, submitting specimens of both paper and printing for our inspection and test with our pupils, as soon as practicable.

"We would likewise be pleased to have you prepare for the manufacture of your proposed cheap ciphering-slate and zinc type, as well as a cheap writing-board, like the one you made for the Boston Institution.

"If these can be made at as low a cost as intimated by you, they will prove a great desideratum in our means of instruction.

"So soon as we are satisfied with the results of your experiments with the book and map types, we will arrange with the several institutions for ordering the production of some appropriate works in the new style of printing, and in connection with our first order will give you our views as to the size of page to be adopted in the books. This we think, with you, should be uniform in all the books, without it may be in primary readers. These are not worn so badly by the arm, when made with a short page.

"Respectfully,

"WILLIAM CHAPIN, *Chairman.*
"W. H. CHURCHMAN,
"F. D. MORRISON,
"G. L. SMEAD,
"A. D. LORD,
"*Committee.*"

Immediately after the receipt of the above communication, I commenced fitting up a work-room, provided with a steam-engine, shafting, and various tools and apparatus for making the variety of devices necessary to carry out my proposed improvements. I also lathed and plastered, and fitted up a second commodious room to accommodate the printing press, type, etc., and the machine for making the perforated wood ciphering-slates. This second room I also provided with shafting and belting for actuating the printing press and the slate-making machine. I mention this simply for the purpose of showing you that these fittings necessarily consumed *time*.

One of the first things wanted to facilitate my experiments,

was a mould for casting type, and I applied to the resident superintendent of the Perkins Institution for the loan of the mould in possession of that establishment, — the same mould I had used while there. The resident superintendent told me that I could not have it; that he had no authority to loan it. I told him, if he had any fears of its being lost or injured, that I would pledge one or two thousands dollars worth of United States bonds for its safe return. He persisted, however, in his refusal, but said he would write to Dr. Howe, who was absent, and get instructions from him on the subject. After much vexatious delay, I was obliged to make a new mould for my own use. This was an impediment I did not anticipate. The withholding of the mould caused me some expense and considerable delay. You may not be aware of the fact that moulds for casting type are expensive, and of very difficult construction; very few workmen in the whole country being capable of making and adjusting their delicate and accurate mechanism.

As soon, however, as it became generally known that I had succeeded in making a mould of my own, I received the following letter from the resident superintendent of the Perkins Institution, written, as will be seen from the date of the two letters, just *Forty Days after* the date of the letter of Dr. Howe: —

"PERKINS INSTITUTION AND MASSACHUSETTS ASYLUM FOR THE BLIND.

"BOSTON, April 18, 1872.

"MR RUGGLES,

"*Dear Sir*, — I have just received a note from Dr. Howe, written March 8th.

"With regard to your request, he writes me to give you whatever facilities I can. You will find moulds at the old Type Foundry. Please call and get them.

"Yours truly,

"M. ANAGNOS."

The above letter was written after it was well known it was too late for the mould to be of any service to me, and yet for the purpose, probably, of conveying the impression, — not to me but to others, — that the Perkins Institution was disposed to be obliging, and always "ready to co-operate with other

superintendents in any feasible and wise plan for increasing and cheapening the books for the blind."

To all persons at all familiar with inventing and building new devices, I submit, with perfect confidence, the results of my past four months' efforts. During that time I have made—

1st. — A new mould for casting type of every description needed for the work to be produced.

2d. — A new and complete alphabet of steel types, or "punches," for making my new-faced type.

3d. — A new and full set of matrices, all carefully fitted to the mould, for casting said new-faced type.

4th. — A new set of steel type, or "punches," for making the new ciphering-type of zinc, or hard white metal.

5th. — A new mould for casting the ciphering-type in zinc, or a hard white metal, principally zinc, which, when handled, will not soil the fingers.

6th. — An apparatus for milling, finishing and smoothing said ciphering-type.

7th. — Have invented and made all the new appliances for casting said ciphering-type in zinc, or of hard white metal, principally zinc.

8th. — A new set of matrices, carefully fitted to the mould, for casting the peculiar type for making maps in relief.

9th. — Have made two large iron matrices for embossing writing-boards, one, as suggested by Mr. G. L. Smead, of Ohio, adapted to the use of persons who had learned to write previous to their loss of sight, and one for the use of those congenitally blind.

10th. — Have invented and built a somewhat complex and costly machine for making perforated wood ciphering-slates, with great rapidity, and at a comparatively trifling cost. This machine required much thought and experimenting, and the expenditure of a large amount of money and time, before I brought it to perfection.

11th. — Invented a new method, and built a new apparatus for stereotyping, by which stereotype plates may be cheaply and quickly made, so as to enable me to stereotype, at a com-

paratively trifling cost, everything that it may be deemed desirable to print.

12th. — Have put up shafting, in connection with a steam engine, to enable me to test the printing of my new-faced type, to print specimens of maps in relief, to emboss the writing-boards, and to manufacture the new perforated wood ciphering-slates.

Specimens of the articles above named accompany this report, and are respectfully submitted for your examination.

The perforated wood ciphering-slates, I think you will find to be far superior to anything of the kind heretofore known. They are very light in weight, — the perforations mathematically exact, and uniform in size, while the spaces between the perforations are all precisely alike. The slates are very strong, durable, and not easily broken. They may be made of any kind of wood, such as black walnut, mahogany, willow, white wood, etc. The machine on which they are made, is driven, by a belt from a shaft of the steam engine. One person, — a boy or girl, — can attend the machine and can make many slates in a day — how many I am not yet prepared to say, as the machine has not been operated for a sufficient length of time to arrive at accurate results.

The zinc, or hard white metal type, for ciphering, are quite equal to my anticipations. They are very light in weight, — very hard and strong, — and will not soil the fingers.

The new-faced type, of which I have made some specimens, I have submitted to the examination of several persons, all of whom, so far as I have heard, esteem them to be a great improvement. In making the new-faced type I have carefully avoided departing from your instructions to keep "the present Boston letter as my basis." But I would here state, as I have previously stated to some of the superintendents of institutions, that I am still firmly of the opinion that I can make a *new* alphabet, based on the ordinary Roman letter in common use, very slightly embossed, and so contrived that it will be as readily recognized by the touch as any of the pricked or printed alphabets, or any other alphabet that has ever been devised; —

while at the same time, it will be read by the seeing as readily as the print in ordinary books. I hope to be able to prepare a specimen to accompany this report, in order to better illustrate my device, and with the hope that you will recommend it to be made, for examination and trial by the teachers and superintendents. My plan is to use Roman capitals and "lower case," as it is technically called, the same as that now in common use, adding points, dots, or marks, slightly elevated above and *upon the raised face of the letter*, so as to be palpable to the touch; — thus having, in reality, two letters on each type, one for the eye and one for the touch, without interfering with each other. I think it might be well to make a large alphabet at first, for the pupils to learn the *exact position* of the dots and marks denoting the different letters, for the purpose of facilitating the learning of the regular reading letter. I am well aware that this new alphabet would have to be studied and learned; but I feel very confident it could be committed to memory much quicker by a beginner that had never learned to read, than any other alphabet extant, whether pricked or printed, and could be read, of course, with perfect ease, by all seeing persons capable of reading ordinary printed matter.

And here, it may be supposed, that this communication should terminate, — but as most of the Superintendents of Institutions for the Blind, are comparative strangers to me, and know little or nothing in regard to my connection with the improvements which have been made in the books and various appliances for educating the blind, and that they may be able to judge, from what I have heretofore done, something of my ability to do in the future, I deem it proper for me here to lay before you and them a brief history of the state of the art relating to the instruction of the blind, at the time I commenced my experiments and improvements, in the year 1834 or 1835, at the Perkins Institution.

The little which, at that time, had been done in this country, was but a feeble effort to imitate the productions of the institutions of Europe. The books were very bulky, clumsy, and unwieldy. The paper, on which they were printed, was very thick

and very soft. The raised impressions soon became flattened and unintelligible, by the touch of the fingers, in consequence of the softness of the paper. The only presses used for printing for the blind, were the common bed and platen presses used by letter-press printers. There were no printing presses then made, *in any part of the world*, of sufficient power to produce the sharp and firm relief desired — and the entire apparatus used in the schools was very inefficient, crude, and unsatisfactory.

Soon after entering upon my engagement at the Perkins Institution, and becoming familiar with the wants of the blind pupils, by daily practical experience and conversation with them, I saw what they really needed, and that it was quite possible to greatly improve their books, slates, writing-boards, and all the other mechanical appliances connected with their education. I reduced the height of the face of the type, and, after a long series of experiments, with sizings made of various resins, gums, etc., succeeded in producing a very thin paper capable of receiving, *and retaining*, the clear and sharp relief so necessary, and so much wanted. By this means, I reduced the bulkiness of the books, and at the same time rendered them much more intelligible and durable. After breaking two of the most powerful iron presses to be found in the market, without obtaining satisfactory results from them, I invented and built a very powerful press of an entirely new construction, which could be actuated either by hand, steam, or other power. This press worked with great rapidity, and gave me the sharp and *permanent* relief wished for. I afterwards built two more presses of this same design and construction, — one for the institute in Philadelphia, and one for the institute in Virginia. I also invented and made the peculiar changeable or movable type for producing maps in relief, — also invented a new mode for making cyphering-slates of block tin, writing-boards, the prepared paper, looms for weaving, a colossal globe, in relief, thirteen feet in circumference, and much other useful educational apparatus. And I here most emphatically and solemnly aver, that, excepting in the literary department, ALL *the improvements made at the Perkins Institution for the*

education of the blind, WERE MADE BY ME — AND BY ME ALONE. That their conception and construction was entirely my own. That I never received the slightest hint from any of the officials of that Institution, or any other person, or any directions from any person other than myself, as to any method or device for the accomplishment of what I there performed. I have been an inventor from my very boyhood, — have made a great variety of inventions, as is well known, in almost every department of industry, — all of them practical and successful. Several machines, of my invention, are in use not only in private establishments in Europe and this country, but in the Government workshops of France, England, Russia, and the United States. I never pirated, or attempted to pirate, the inventions of another person — *never claimed to have invented that which I did not invent*, — and never allowed myself to receive medals struck in honor of the achievements of another, nor to accept praise or rewards, of any kind, for inventions made by others.

When I retired from the Perkins Institution, I left that establishment in the most perfect working condition, with the type, and all the other appliances connected with them, for making maps in relief, all in excellent order. Several years ago, Mr. Campbell, the well-known and highly accomplished teacher of the blind, then a teacher at the Perkins Institution, called on me to beg that, for love or for money, I would go to the Perkins Institution, if only for a short time, and make a few maps in relief, saying to me that all the maps and atlases I had made while there, with the exception of a stereotype, were all worn out, and that no person connected with the Institution, *not even the Director himself*, had skill enough to reproduce another edition! I told Mr. Campbell that I would gladly comply with his request, if I could do so for the benefit of *all* the blind, but that I felt I had already done enough, and too much, for the gratification of *one* man, and the glorification of *one* Institution, and therefore must decline, — but that I had resolved, at some future day, if my life should be spared, to get up and put into operation an establishment from which *all the blind* could be cheaply

and abundantly supplied with everything necessary for their happiness, so far as their education was concerned, — that I had always felt a deep sympathy for them, — had never lost sight of their wants, — and, as soon as circumstances would warrant, I intended to get up an establishment from which they could be supplied with books, maps, slates, writing-boards, music, etc., of a quality superior to anything they had known, and at a cost so low as to be merely nominal.

The Mr. Campbell, above alluded to, is now the principal of one of the most successful educational institutions for the blind in London, teaching music as well as all other branches of learning there. He is the same Mr. Campbell to whom Mr. Patten paid such high and well-merited compliments at the last meeting of the Convention. [*See page* 80, *of the* "*Report of Proceedings of the Second Convention of American Instructors of the Blind.*"]

In the last paragraph of Dr. S. G. Howe's letter to Mr. Churchman, published in the "Proceedings of the Second Convention of American Instructors of the Blind," held in August, 1871, there are statements which I cannot permit to pass unnoticed or uncorrected. In that letter (*on page* 19 *of the* "*Proceedings*") he says: —

"Some one has endeavored to produce the impression that I am not disposed to have the several Institutions accept his (Mr. Ruggles's) offer. A garbled extract from one of my letters has been circulated, which strengthens this impression; whereas, if the whole had been introduced, no such impression could have been made."

And further on, in the same paragraph, he says: —

"As we" (meaning the Perkins Institution) "had just built a new and costly press, greatly superior to the so called Ruggles press, I answered that the proposal came too late *for us*."

Now, this is not true. The words, "FOR US," are not to be found in his original letter to me, — the letter which he says has been "garbled." I still have his letter in my possession, — have shown it to some members of your committee, and shall be glad to show it to all interested.

My letter to Dr. Howe, closed with the following paragraph: —

"You will oblige me by giving me your opinion on this matter, at your earliest convenience, and inform me if you think my proposition will meet with a welcome response."

My inquiry was of a *general character*. He replied, saying my offer seemed very generous, but added: —

"I fear it comes too late."

His answer was of the same *general character* as my inquiry. It was meant to discourage me, — to convey the impression that it was too late to attempt to introduce any improvements such as I had indicated in my proposition, or letter.

It is he himself, that is endeavoring, now, to give a false color to his letter to me, by *adding* words it does not contain, and thus changing, or striving to change, its true intent and meaning.

Again, in the same paragraph, he says, —

"He" (Ruggles) "overrates the importance of the work he did under my direction, and supposes he was planning and inventing methods, while he was only contriving mechanical appliances to carry out the methods devised by others."

This, also, is untrue, — he knows it is not true, — and he also knows that the statement, or insinuation, that I ever received any aid from him, or from any source, other than from my own mind, in devising, planning, or inventing methods, or means of any kind, or for any purpose, while I was at the Perkins Institution, is as false as it is unjust and unmerited. I reiterate, that, excepting the literary department, all the improvements made at the Perkins Institution, for the education of the blind, were made by me — by me alone. If Dr. Howe, or any one else, ever had any ideas of any improvements, they were never communicated to me. The audacity of the claim he now sets up, is to me incomprehensible.

The press which I invented and built while there, and which he never saw or knew anything about until it was set up and at work in the office, he spoke of, in the annual reports of the

Trustees, in the highest terms of praise, — but I never before imagined that he intended to claim it as his own invention.

In the "Fortieth Annual Report of the Trustees of the Perkins Institution and Massachusetts Asylum for the Blind," dated "October, 1871," is a "circular," "[C.]" addressed "to the Managers and Superintendents of Institutions for the Blind, and the Friends of the Enterprise for procuring a Library in raised Letters." On the errors and misstatements of that circular I propose to make some comments.

The first paragraph of said circular, on page 36 of the said report, says: —

"This Institution was the pioneer, in this country, in the work of printing for the blind, and has printed more matter in the English language than any, perhaps all others together."

True, — and it was owing to the various experiments, improvements, and inventions which I made, while there, that said Institution acquired and deserved the name of being "the pioneer" in "printing for the blind."

The second paragraph in said circular, is as follows: —

"It is known to those familiar with the history of printing for the blind, that it was virtually revolutionized at this Institution. The methods, by which the great reduction in the bulk of the books was made, and even the form of the letter, was decided upon by the Director, before any mechanic was engaged to carry them out, or any special press constructed."

A part of the above is true, but the first sentence in the paragraph, to give the *whole truth*, should read thus: — It is known to those *familiar* with the history of printing for the blind, that it was virtually revolutionized at this institution, by the inventions and improvements made by Stephen P. Ruggles.

The second sentence in the above quoted paragraph, in relation to "the reduction in the bulk of the books," is *not* true. The "*form* of the letter," it is perfectly well known to every one conversant with the subject, was not, and is not, of the slightest importance, for the blind do not *feel* the letter in "the form" in which it is *seen*. It was by *my rule using the size, bevel, and height of the face of the type*, and rendering the type practical, by means of the *paper* and *press* which I invented,

that the great reduction in the bulk of the books was accomplished. "The *form* of the letter," which may or may not have been "decided by the Director," had nothing whatever to do with the reduction of the bulk of the books.

The third and fourth paragraphs of said circular are as follows: —

"The results of those methods (to which mechanical contrivances are of minor importance) were fully set forth in the voluminous Report of the Juries at the Great British Exhibition in 1854.

"The jury, after full examination and comparison of the various methods of printing, in various countries, unanimously gave the superiority to this method of the Director, and awarded the medal to him. During the last fifteen years, still greater improvements have been made at our office; and the old presses and methods superseded by improved ones. Many valuable works have been printed, the funds for which were mostly raised by the personal efforts of the Director."

The juries, at the great British Exhibition, did their whole duty — honestly, justly. No one has any cause to murmur at their decisions. They awarded the medal to the party whom they *believed* to be the author of the improvements exhibited before them. Consequently they awarded the medal to "the Director" of the Perkins Institution.

The medals awarded to our fellow-citizens by the juries of the Great British Exhibition, were distributed by the Governor of Massachusetts, at a public meeting held for the purpose, in the Music Hall, Winter Street, in this city. In presenting each medal, the Governor made some appropriate and complimentary remarks, to which the recipients responded; but when the medal awarded for improvements in printing for the blind, was announced, *nobody stirred to put in an appearance to receive it*. *That* medal was laid aside, and the ceremony proceeded with.

That portion of the paragraph last above quoted, which says "still greater improvements have been made in our office," I feel very much inclined to doubt. I have kept the run of several of the Institutions for the Blind, that profess to do printing, and I know of no improvements that have been made at the Perkins Institution since I left there. On the contrary, I believe I have evidence that it has retrograded; for it has not,

at any time, within "the last fifteen," or within the last thirty years, been able (with the exception of a stereotype I made while there) to reproduce a single copy of a printed atlas or map in relief, notwithstanding the urgent demand for such work, and although the Institution is well provided with all the mechanical appliances which I invented and made for that purpose, and which I left there, all in good working condition.

The fifth paragraph in said circular is as follows: —

"The Institution is now prepared to carry on this work more vigorously than ever. It has a new press and apparatus, superior in all respects to the old one in common use."

It has been found that the common "Hoe cylinder-press," without the inking apparatus, — the same as that now used at the Perkins Institution, giving the impression by a cylinder, — will yield (when guided by a person skilled in embossed printing) very good impressions in relief. I demonstrated the fact many years since, and invented and built a cylinder-press many years ago, for the American Printing House for the Blind, which has been in use there for nearly ten years past.

My very first attempts in printing for the blind, were made with a cylinder, in connection with a rubber "follower," — but, at that time, the manufacture of rubber was very imperfect, and I soon found it could not be used in connection with a cylindrical pressure. I was therefore compelled to use the rubber as it was then made, under the powerful flat pressure press which I invented and built for the purpose, and which has been in use in the Perkins Institute, for more than thirty years, and until within a year or two of the present time, when it was well worn out.

Many years since, I observed that the manufacture of rubber had vastly improved, especially in its adaptability to embossing under a cylindrical pressure — and as soon as I could find time and opportunity I set myself at work to invent a cylinder-press for printing for the blind. I completed the press in 1863, and delivered it to the American Printing House in Louisville, Ky. Dr. Howe states that his "new and costly" press is superior in all respects to mine, — or the press invented by me. It is not

probable, I think, that he has ever seen or ever heard of the rapid and easy-working cylinder-press, which I invented and made for the American Printing House for the blind, and which I exhibited, in operation, at the Massachusetts Technological Institute, on the the tenth day of December, 1863. Neither is it probable that he has ever seen or heard of the beautiful printing which has been done on that press by the American Printing House. It is immensely superior to anything he has ever issued from the Hoe cylinder-press. Besides, my press is larger, costs less, and will do more and better work at less than half the expense for power and labor, than can be done on his Hoe cylinder-press. Had he known of the existence of the cylinder-press which I made for the American Printing House, it hardly seems possible that he would have ventured to make such erroneous statements.

The sixth paragraph in the circular is as follows: —

"The friends of the cause should consider that where there is no pecuniary competition, the more work that can be done in one establishment, the more cheaply it can be done."

"The friends of the cause" should also consider that it is thought it will be much better to have all the printing, binding, etc., carried on in *one* place, disconnected from all the institutions or schools — and this *one central establishment* to be always under the control of all the superintendents, through a committee elected by them for the purpose.

The eighth paragraph in the circular is as follows: —

"The printing-office will be kept abreast, if not in advance, of any other, in respect to processes for printing books, for embossing maps, and machinery for making apparatus of all kinds used by the blind."

Is it not very remarkable that an institution, represented to be so well prepared to do so much, should not have been able to reproduce one solitary map or atlas, in relief (with the exception of a stereotype which I made while there), nor any educational apparatus, when there has been such a constant and pressing demand for such works?

The ninth and tenth paragraphs in said circular are as follows: —

"The improvements which have been steadily going on for the last thirty years, as well as the good [illegible] Books will be printed, for any parties elsewhere, not to say anything of the saving of paper and pressework, without any consideration of rent, wear and tear, or superintendence.

"In consideration of donations which have been made, and are anticipated, pupils or subscribers will be charged [illegible] per year less than the above rates, of course, much below cost."

I know of no improvements that have been made within the last thirty years. The superintendents of institutions, generally, can judge what improvements, if any, have been made, and also what the actual "*cost*" of printing is.

The eleventh and twelfth paragraphs in said circular are as follows: —

"It is submitted for consideration, as to the friends of the work, that unless some positive pledge is obtained that a large sum, say a hundred thousand dollars, shall be given outright, it is better that the enterprise of providing a common supply for [illegible] should remain the work of an institution having common interests with others, and not [illegible] to persist, rather than be compelled upon the [illegible] individual.

"Until at least one hundred thousand [illegible] practical, and [illegible] so pledged to the work of printing as to be beyond the reach of any individual, it will not be safe for [illegible] to give up the work."

To the last paragraphs, above quoted, a reply will be found in what I have said on page 30, in the last paragraph of this communication.

The thirteenth paragraph of said circular contains the following sentence: —

"The press of this institution, therefore, will be kept in motion.

There certainly can be no objection to keeping a press in motion, until it is known that work can be produced, at [illegible] *total depot*, to much better advantage, and at much less expense.

It has been my opinion, for many years past, and the opinion of several gentlemen with whom I have conversed on the subject, that the printing, binding, and stereotyping, etc., and the making of all the apparatus needed for the education of the blind, should be done in one place — and that that place should

not be connected with any one Institution, though it should be under the control of *all* the Institutions for teaching. And further, that there is no more necessity for hampering an institution for the education of the blind, with a printing-office and bood-bindery, and a machine shop for manufacturing school apparatus, than there is for furnishing a similar outfit for each of our public schools.

In the "Fifth Biennial Report of the Trustees and Superintendent of the Arkansas Institute for the Education of the Blind, for the two years commencing November 1, 1868, and ending October 31, 1870," there is a paragraph on page 24 of said report, which is so manifestly true, and so perfectly in harmony with the opinion I have for years entertained, and with the object I had in view when I issued my proposal, on the 15th of January, 1871, that I cannot resist the temptation to reprint it here,— remarking, however, that I never knew, until long after my circular was issued, that such a paragraph had appeared in print, or that such a thought had been expressed, or entertained, by any person except myself.

"It is much to be regretted that there is no one place in this country, or in the world, where all kinds of school apparatus for the blind can be obtained. Our own limited supply has been gathered from eight different States, and from Europe. The cost of such apparatus is so great, and the demand for it so limited, that there is little commercial inducement to manufacture it. Hitherto, each Institution has, in a great measure, had to manufacture for itself. Could all the effort and money thus separately expended in the United States, be concentrated into one national establishment, the cost of school apparatus might be greatly reduced, and the quality much improved."

Now, what I propose to do, — that which I am now earnestly laboring to do, — is to get into operation an establishment where works of every description, which are useful for the education or enjoyment of the blind, may be produced, at the smallest possible cost, *for the benefit of all blind people*, — including, alike, those outside of the Institutions and those within them, — an establishment where the deserving can always obtain books, maps, atlases, ciphering-slates, writing-boards, or any other useful article, free of charge, — and where those who can afford to purchase such articles, may obtain them at the actual cost of production.

I infer from the remarks made by Dr. Howe, in the "circular" appended to his report of "October, 1871," (and also in his letter of August 7, 1871, to Mr. Carrechman,) in regard to his "new" and "superior" press, that he has never seen or heard of the latest improved cylinder-press which I invented and built in 1863, and which has been herein before spoken of, on page 19; and as it is possible, perhaps probable, that there are other superintendents who may be ignorant of its existence, I here give an engraving of it, with a brief description

of its construction and operation. It may be of value to European institutions, as well as to our own office. I never secured the advantages from it which a patent would have conferred; but was, and am, glad to give the full and free use of this invention for the benefit of all the blind, at home and abroad.

"The press is put in motion by turning the fly-wheel by means of the crank, A, or by a belt on the pulley, B; the fly-wheel moving in one direction all the time. The sheet to be printed is placed on the form of type, C, which rests on the bed, D, and over which the india-rubber tympan, E, shuts down as said bed moves forward. The cam F, as it revolves, with the gear wheel, M, comes in contact with a lever, which causes the bed to start very slowly from its state of rest, but increases its speed so that it soon acquires the same velocity as the surfaces of the cylinder (not seen in the cut) and the segment of the cylinder, G, between which it passes for the impression to be made on the paper. When the rear end, H, of said segment, has passed its lowest centre, the bed is relieved and drawn back to the position shown in the engraving, by a weight attached to said bed by a strap; said weight running down in the inclined spout, I. The strap is wound on a snail-shaped pulley to give said weight its greatest power of leverage to start the bed back quickly, and its least power to resist the bed's motion forward. The cam, F, may be so adjusted on the gear wheel, M, that only a small portion of the segment, G, will be brought in use when a small form is to be printed, thereby allowing the press to run very rapidly and yet afford sufficient time to lay the sheets to be printed. The journals of the shaft of segment, G, run in eccentric boxes, to which the levers, K K, are attached and by moving said levers back or forth, said shaft and said segment may be raised or lowered to regulate the impression. L is the throw-off shipper, and is so related to the lever with which the cam, F, comes in contact, that the bed may, when desired, be prevented from starting forward, for an impression, while all other parts of the press are in operation."

As if not quite satisfied with the obloquy he had heaped on me in his letter to Mr. Churchman, and in the last (October, 1871) report of the trustees of the Perkins Institution, which I have hereinbefore alluded to,— Dr. Howe issued, on the 21st of February, 1872, a very long letter, *in manuscript*, to superintendents: and a portion of one of its paragraphs contained the following sentences: —

"I cannot invite superintendents, at my own expense, to protracted meetings from which others equally interested are excluded. I cannot make donations to agents."

If he alludes to *me*, in his remarks in regard to making "donations to agents," I reply that I shall take the liberty, at all

times, without asking his *advice or "direction,"* to give or to do whatever I please with my own money honestly earned and not solicited for charitable purposes.

In regard to his gratuitous remarks concerning the committee elected by, and representing all superintendents, I presume said committee will hold their private sittings, — "protracted," or otherwise, — without feeling obliged to admit those, NOT *members of the committee*, who may style themselves "equally interested," and who desire to dictate and control their deliberations.

The unenviable position in which I have been placed, in consequence of the publication of my well-intentioned proposal of January, 1871, must be my apology for printing the following, which I do even at the risk of being thought egotistical: —

TWENTY-THREE YEARS ago, an editorial article on "The Education of the Blind," appeared in the columns of the "*American Cabinet and Boston Athenæum*," and I here make a copious extract from it, hoping it may not prove wholly uninteresting at the present time, and, especially, that it may serve to qualify any unfavorable opinions which recent events seem to have engendered. The following extract is from the above named periodical of *November* 31, 1849.

"EDUCATION OF THE BLIND.

"Very few of our readers, probably, are aware of the great improvements which have have been made, within a few years past, to ameliorate the sad condition of the blind. We have, for some time, contemplated giving a brief article in our journal on this subject, deeming it one of the liveliest interest, and at the same time to record a just and richly merited tribute to the genius of one of our own countrymen, through whose inventive talents and untiring patience and industry, the blind, in all parts of the world, have been so materially benefited and relieved in their life of dreary darkness and perpetual night.

"The more humane and enlightened, in Europe and in this country, have for many years manifested the deepest sympathy for those who have been deprived of sight, and all that pecuniary aid could do to alleviate the sufferings of those thus afflicted, the kind-hearted and generous have freely given. This generosity has, to a great extent, supplied all, or nearly all their physical wants.

"Institutions, richly endowed, for the Education of the Blind, are very numerous in Europe, particularly in England and France. — but the means of education, the *mechanical* means, — and particularly the difficulty and great expense of printing books for their use, were such that, until lately, little progress, comparatively, was made. Amongst those persons, in Europe, most eminent for their zeal and devotion in behalf of the blind, for giving them intellectual enjoyments as well as physical comforts, appear the names of many of the most philanthropic of the past and present century. But there is one more name which well deserves to be added to that bright "head roll" of fame. It is the name of a modest and talented American, Mr. STEPHEN P. RUGGLES, of this city, the well-known and ingenious inventor. From his talents and his exertions, the blind have received more real and substantial good, in facilities for learning, than from any other source.

"In 1832, the Perkins Institution and New England Asylum for the Blind, went into operation in this city, being the first institution of the kind ever established in this country. There are now several others, one in New York, one in Ohio, one in Virginia, one in Pennsylvania, and one in Kentucky.

"Immediately after the Perkins Institution, in this city, was opened for the reception of pupils, the government of this establishment were so fortunate as to engage the services of Mr. Ruggles as an assistant. He was then a very young man, but had already distinguished himself by his inventive genius and the production of three or four valuable machines for different purposes, and several improvements in the processes of as many different arts, all of which were of great pecuniary value. He had begun to attract the attention of capitalists and of scientific men. Remarkable as were his inventive powers, he was not less distinguished for the facility and dexterity of his manipulations. All tools seemed made especially for his use, and he used with equal skill and confidence the most delicate as well as the most ponderous instruments. He constructed his machinery, whether of wood or metal, or other materials, with a neatness, judgment, and expedition, as astonishing and wonderful as its originality. He had but recently completed an apprentice ship at the printing business in a small town in the State of Vermont, and of course had had but little opportunity even to see ordinary mechanical operations performed, — yet, on entering a very large machine shop, in this state, to build, with his own hands, some particular part of one of his newly invented machines, such was the skill and tact he displayed, that he attracted the attention of all hands employed in the establishment, and, finally, of the proprietor himself, who offered him a large salary to take the entire control and direction of the department of construction. But this offer he declined, as he had other and more extensive views. He very soon accepted the proposals made him from the Perkins Institution and New England Asylum for the Blind, and entered at once, with philanthropic ardor and enthusiasm, upon an investigation of the wants and capabilities of the blind. The first and most important step was of course to give them books. By the old method of making books, as practised in Europe, the books were made too unwieldy and bulky, as well as too costly.

"With a quick perception and ever ready invention, for which from boyhood he had been remarkable, and with a most wonderful faculty of adapting means to ends, he very soon ascertained that he could produce a type of less size, and less height of face, which the blind could read as well, if not better than the old-fashioned kind. To accomplish this most important and desirable improvement, he altered the size and the height and bevel of the face of the type repeatedly, each time taking impressions,

entirely his own discovery or invention.

"Having prepared the type [illegible] commences printing, and after many trials and experiments, with the strongest paper-pulp sheets of vellum, and their working, two of them with the surrounding protecting sheets of impression as he knew to be necessary for the perfect success of his improvements, he was able at last to invent and build a most powerful press of an entirely new construction. The new press he so contrived that it could be worked by the hand, and which, while it gave a pressure at each impression, of about three hundred tons weight, would at the same time throw off work at the rate of sixteen to twenty sheets per minute, the working about as fast as the ordinary newspaper power presses. This press is a splendid specimen of mechanism, and would alone be sufficient to stamp the character of its inventor as one of the highest order. It is a most interesting object, if considered for its originality, its perfect construction, or its surprising performance.

"After succeeding perfectly in the construction of his type, and as perfectly in the invention and construction of his beautiful and peculiar press, a new and unexpected difficulty presented itself. There was no paper to be found properly adapted to the purpose of this kind of printing or engraving. That which was hard enough would have a rough, and to touch when embossed or printed, and that which was flexible enough not to crack or break through would flatten down when pressure upon by the fingers of the pupils. It required a very extensive manufactory, whereby, what it would require a *sheet* and *over* impression from the type, would neither tear nor break through, nor flatten down when to take the lines so much pressed on it by the engraver. The shaping of the lines of the type, that is, the peculiar shape and bevel and height of the face of the type and the texture of the paper printed on, were most accurately connected, and I now require [illegible] series of experiments to get both of them so harmonized and adjusted as to work perfectly together. Few persons could have surmounted these difficulties. However, after many experiments upon the manufacture of paper with gums, resins, and gelatine, he produced at length a paper having all the qualities that he required. He thus produced a paper stiff and hard, like parchment, that would receive a sharp and distinct impression, that would stand firm and unyielding when pressed by the fingers, and that would not break or crack under the pressure from the press.

"After getting the new method of printing books perfected, and setting his type, paper, and press at work, as aforesaid, Mr. Higgins resolved to wield immediately a new method of making Masters of Alphabets, which proved eminently successful. His plan was a much shorter one, and the results were but little inferior to those obtained by the old process. By this method he could produce a succession of impressions of any size and on any country. Maps made on this principle were produced [illegible] by Perkins, Fraser & Co., Boston, and [illegible] of the United States and those of Central America. The engraving and stereotyping [illegible] by most persons to be [illegible] that [illegible]

could be so contrived as to admit of their being arranged in such a manner as to produce a map of any country and then to use the same types to produce a map of any other country or place. Yet, difficult as this may appear, it was most perfectly accomplished by the new invention, every piece of type matching its neighbor with miraculous cunning, while following the crooked lines and angles or graceful curves of the various rivers, coasts, islands, lakes, bays, etc., with which such works abound.

"By this invention, so decidedly superior to every other before known for conveying to them an idea of geography, the blind were introduced to a new world of thought, of study, and reflection. A ray of light upon their dark and sunless path could have carried but little more joy to their grateful hearts. By the old method a map for the blind was produced by building up by hand, on a board, the objects to be represented. A small map by the old method would cost six or seven dollars, and would not contain one half as much information as one on the plan invented by Mr. Ruggles, and which would not cost as many cents. Besides the disadvantage in point of cost, the maps on the old plan required a seeing person to explain them to the blind, while by the new method the blind could readily understand the whole without assistance from any one.

"Mr. Ruggles next produced the plates for a book on Geometry, on a plan similar to his maps, in which all the geometrical figures were perfectly distinct to the touch. This work proved to be very valuable and interesting to the blind, who are so proverbial for their love of mathematics. With this work they could study without the assistance which before this was indispensable. His next production of importance, was a colossal Globe with the land and water, the cities and towns, the lines of latitude and longitude, etc., all distinctly marked by elevated characters on its extensive surface. This unique production has elicited the admiration of every visitor to the institution, foreigners as well as natives, and it is believed to be the only one of the kind in the world. Its utility as a source of instruction and amusement for the pupils is of the first importance. With it the blind scholars can answer all the usual questions quite as correctly and promptly as the pupils in our High schools. This globe is thirteen feet in circumference, and is elegantly and conveniently mounted. It has a horizon with all the signs of the zodiac, and a meridian attached to it so that astronomical problems are worked by it without difficulty.

"We cannot, in the brief space allotted to this article, take up every valuable and important improvement which Mr. Ruggles has made for facilitating the education of the blind — but the school apparatus, generally, now in use in all the institutions in this country, is his invention. We would instance their slates as being exceedingly convenient and ingeniously contrived, and so highly superior to the 'old kind' as to be the constant theme of praise by all the scholars who have used both — the old and the new.

"In 1838 Mr. Ruggles went to Philadelphia and established one of his powerful presses for printing for the blind, in the Institution in that city. There is also one of his presses in the Institution for the Blind in the State of Virginia. And these presses it should be borne in mind, are not only his own invention, but his own manufacture.

"'The first attempt made to *print books* for the blind was made by the Abbe Hauy, at Paris, in 1785. The letters were so large, however, the paper so thick, and the whole book so bulky and expensive, that they were of little practical use. No improvement had been made upon this system, so late as 1839, when the Paris press was still lumbering on in the old method.'

"The successful method invented by Mr. Ruggles for reducing the size

and expense of the books, and for printing them also, formed a new era in the history of this kind of work. Books by this method were rapidly multiplied and sent all over this country, and over many parts of Europe. Of the effect produced abroad, on the appearance of these new books, an impression may be obtained by the following quotations from a most reliable source: —

"'A French author, a former teacher of the Paris school, writes thus: — *The Americans have effected a revolution in the art of printing for the blind.*'

"'In a report made by order of the Belgian Minister of Public Instruction, on the establishments for the blind and deaf, — the Abbe Carton, Commissioner appointed for this purpose, writes thus — "*You will be able to perceive that the American print, while it is comparatively sharper and more legible, does not occupy but half the space of that of Paris.*'" *

"Ramon de la Sagra, an able Spanish writer, after some discussion on this subject, remarks, 'As to the clearness of the relief, and the perfection of the press work, the Boston books may be presented as models; it is the same as the geographical maps, the figures of geometry, and the musical characters.'" †

"The same author, who critically examined the subject in 1835, says further: 'One of the branches in which the young institution, in Boston, has made admirable progress, is, beyond question, the printing of books and geographical charts in raised characters.' . . . . . .

"'By diminishing the characters, a page eight inches by seven will contain seven hundred and eighty-four letters, while it will contain but four hundred and eight of the French characters and five hundred and nine of the eight angular characters used at Edinburgh; as I had occasion to mention in my observations on the New York Institution. Seventy-six pages of the French books make a volume two and a half inches thick, while the same number by the Boston method make a volume of but one and a half inch.'" ‡

"In a letter from Dr. Allston, the superintendent of one of the English Institutions for the Blind, to the Government of the Boston Institution, dated June 18, 1836, is the following: — 'I received yesterday the maps, books, etc., for our Institution, for which I beg you to accept my most grateful acknowledgments. I have been earnestly at work upon them all the morning, and you could not have given me a greater pleasure than you have done.

. . . . . .

"'I am delighted to think you are in such a fair way as to be of such a blessing to the blind. I pray God may spare you long to accomplish your great undertaking.'

"These extracts are sufficient to show the importance with which those improvements were looked upon by the people of Europe — and it is, perhaps, to be regretted that Mr. Ruggles did not continue to labor longer in the same field. But feeling the necessity of being more profitably engaged, and wishing too, possibly, to apply his powers in a direction less limited, and where his efforts would be felt and appreciated by a greater number of his fellow-men — he left the Perkins Institution, after being there some six or eight years, and immediately brought out his celebrated printing engines, paper cutters, card cutters, etc.; all which he patented, and from the sales of which he has rapidly acquired a handsome fortune. His printing engines, or job printing presses, are scattered far and wide

* Rapport de l'Abbe Carton.

† French translation of Sarga's work. — Paris, 1837, Page 383.

‡ Idem.

throughout our whole country, and he is now supplying orders for them from Europe. They produced as great and entire a revolution in the method of job-printing, almost, as the power press did over the old method of printing by hand. These presses are to be found in almost every town (where there is a printing office) between the lakes and the Atlantic, and from Halifax to San Francisco — three of them having gone to this new El Dorado within the past two months.

"In alluding to some of the more important productions of Mr. Ruggles's skill, we omitted to mention that the plates of the entire Bible, from Genesis to Revelations, were made under his immediate direction and superintendence, in this city, for the American Bible Society in New York. This is by far the largest and most costly work ever issued for the use of the blind, and fully equals, in its mechanical execution, any of his smaller productions— which are very numerous.

. . . . . .

"It has been ascertained from actual experiment, that the blind can read with as much pleasure, with as much facility, advantage, and profit, to say the least, as those who possess the rich blessing of sight; and now that there are such ample means at hand for multiplying books for their use, we hope their desire for reading may be gratified to its fullest extent.

"We have seen within a few days past, a new specimen of map printing for the blind, invented by Mr. Ruggles, and which he considers a very great improvement on the Atlas which he printed while at the Asylum. He has produced this specimen as an experiment merely, and to amuse himself in some of his leisure hours. We saw also a portion of another new printing press which he is about to bring before the public, and we predict that it will be as great a favorite with the craft as anything which has ever been offered for their approval. It is a rotary press, differing in every respect from each of his other inventions, very neat and quick in its operations, simple and cheap, and produces the very best work.

"Mr. Ruggles is frequently applied to to invent machinery for specific purposes, and there are now in active operation, in different parts of the country, two or three very valuable machines of his invention which the proprietors have never had patented, but which they prefer to work privately, as their profits will be greater by pursuing this course.

"We know very little of the early history of Mr. Ruggles, but he is a native of Vermont, and served an apprenticeship at the printing business in his native State. We hope at some future time to see a biography of him from the pen of one intimate with his whole history, and the interesting experiments he must have made. His celebrity demands this from some of his friends; and we trust this brief sketch of but a small part of what he has accomplished may serve as a hint for a full and connected history of one of the remarkable and most useful men of our day."

Before closing this communication, I feel it a duty I owe to you, and to myself, to make some explanation of the cause of its length, and of what might, under other circumstances, be deemed irrelevant in its scope. I desire you, and others, to consider that in the "Report of the Proceedings of the Second Convention of American Instructors of the Blind," on pages 19 and 20, — and also in the "Fortieth Annual Report of the Trustees of the Perkins Institution, and Massachusetts Asylum

for the Blind," on page 28, — it is stated that, while I was engaged at said Perkins Institution, although I supposed I "was planning and inventing methods," I was, really, "*only contriving mechanical appliances to carry out methods invented by others.*" This I have denied. My good name is the heritage of my kindred. I should be deemed imbecile, or something worse, if I allowed it to be filched from me without a word in my own defence. The pamphlets in which those statements have been printed, have been widely circulated. I have as yet had no means of replying to them. I therefore avail myself of the present opportunity, and hope as wide a circulation will be given to my denial, as to the statements which called the denial forth. Unjustly accused and misrepresented, I have adduced all the evidence within my reach, — and hence have printed the editorial sketch from the "*American Cabinet and Boston Athenæum,*" *of November* 31, 1849.

Having now placed matters in such a light that I believe "history will not be perverted," I will add, that, so soon as I shall have got all the machinery in my laboratory in perfect working order, for making all the mechanical works needed for the education of the blind, or, so soon as you shall consider that the various appliances I have already made are sufficiently complete to be of value to you for the purposes intended, it is my wish and intention, and always has been, to make a free gift of the whole, for the benefit of *all the blind.* I am ready to make such gift and transfer, to-day, or to-morrow, or on any day you may designate, after you shall have selected a proper party to receive and assume control of it. I make no charge for what I have done and am doing. I long since retired from a very profitable business, and my income from the receipts of more than twenty patents,— granted me since I left the Perkins Institution, — renders any further pecuniary accumulations by me, not only unnecessary, but quite undesirable. Therefore, I ask for no emolument for myself, and I have no sons, or sons-in-law, or any one else, on whom I desire to bestow, or to whom I wish to leave, a money-making business. My

single purpose is, as I have before often stated, to benefit the *whole blind* and not those who can see.

Very respectfully,

S. P. RUGGLES.

To Messrs.

WILLIAM CHAPIN,
WILLIAM H. CHURCHMAN,
A. D. LORD,
F. D. MORRISON,
G. L. SMEAD,
} *Committee.*